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DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS
WASHINGTON
(April 10, 1936)

Letter
Circular
LC 196

TESTING LABORATORIES
EQUIPPED FOR CHEMICAL ANALYSES

Compiled by the Chemical Division of the Bureau of Standards, from the replies to a questionnaire which was distributed to engineering schools and laboratories and to those who answered an announcement published in the technical periodicals.

The Bureau of Standards, in accordance with law, makes tests and carries out investigations for other government departments. Due to the large amount of this official work, it is impracticable for the Bureau to make tests for private individuals if other laboratories can do the work.

This list, alphabetically arranged, has been prepared to inform persons interested, of the location of other laboratories and the kinds of chemical analyses they state they are prepared to do.

It is expected that additions to or revisions of this circular will be made from time to time as information is received as to other laboratories equipped for chemical analyses.

The Letter Circulars are designed to answer specific inquiries to save the preparation of a large number of letters on the same subject. There is no guarantee that the information given in the Letter Circular is correct except as of the date of issue.

The kinds of analyses made by the different laboratories are listed according to the following legend:

- a - Gold and Silver
- b - Platinum Metals
- c - Ores of zinc, copper, etc.
- d - Coal
- e - Ferrous Materials
- f - Non-ferrous Materials
- g - Oils
- h - Gas

Alabama

Battle Laboratory, Montgomery, 103 S. Court S
 Specialize in analysis of fertilizers, cottonseed
 products, feed and food products.

Laverie, R. H. & Son, Inc., Birmingham
 (Branch - see New York)

Pittsburgh Testing Laboratory, Birmingham, 215 Clarke Bldg.
 (Branch - see Penna.)

Southern Testing Laboratories, Inc. Birmingham, Brokers' Bldg.
 a, b, c, d, e, f, g, h. Specialize in all types of
 road and building materials and general analysis.

Alaska

Alaska Agricultural College and School of Mines, Fairbanks.
 a, b, c, e, f, g, h. Specialize in general analysis
 of ores for prospectors and miners.

Arizona

Householder, E. Ross, Kingman.
 a, c. Specialize in gold, silver, copper, lead and
 those metals contained in custom ores shipped to
 smelters, custom mills, samplers, etc.

Miller's Assay Office, Nogales
 a, c, d. Specialize in metallic ores.

Motz Engineering Co., Bisbee, Box 919
 a, c, e, f. Specialize in gold, silver, copper and
 lead.

Patagonia Engineering and Assay Co., Patagonia.
 a, b, c, e, f.

Tellegrin, A. L. & Son, Tucson, 100 S. Stone Ave.
 a to g inclusive

Arkansas

Barrow & Agee Laboratories, Little Rock, Box 293
 (Branch - see Tennessee)

California

Atkin and McRae, Los Angeles, 747 S. Hill St.
 a to g inclusive. Specialize in inorganic.

11-11-44

Mr. J. Edgar Hoover
Director, Federal Bureau of Investigation
Washington, D. C.

Dear Sir:

Enclosed for the Bureau are two copies of a letterhead memorandum (LHM) dated and captioned as above. The LHM was prepared by the New York Office on November 10, 1944, and contains information regarding the activities of the German People's Police in the New York area.

Very truly yours,

Walter D. Wines
Special Agent in Charge
New York Office

Enclosure

Enclosed for the Bureau are two copies of a letterhead memorandum (LHM) dated and captioned as above. The LHM was prepared by the New York Office on November 10, 1944, and contains information regarding the activities of the German People's Police in the New York area.

Very truly yours,

Walter D. Wines
Special Agent in Charge
New York Office

Enclosed for the Bureau are two copies of a letterhead memorandum (LHM) dated and captioned as above. The LHM was prepared by the New York Office on November 10, 1944, and contains information regarding the activities of the German People's Police in the New York area.

Very truly yours,

Enclosure

Walter D. Wines
Special Agent in Charge
New York Office

Enclosure

Very truly yours,

California(Cont'd.)

- Baverstock and Payne Los Angeles, 223 W. First St.
a, b, c, d, e, f, g, h.
- Curtis and Tompkins San Francisco, 331 Calif. St.
c, d, e, f, g, h. Specialize in chemical engineering, food and agricultural analyses; ores, alloys, clays, minerals, oils, coal, coke, etc.
- Herman, John Los Angeles, 339 S. Los Angeles
a, b, c, e, f. Specialize in analysis connected with the treatment of ores.
- Hunt, Robt. W. & Son. San Francisco, 251 Kearny St.
(Branch - see Illinois)
- Kawin, Charles C. San Francisco, 693 Mission St.
(Branch - see Illinois)
- Laverie, R. H. & Sons, Inc. Los Angeles and San Francisco.
(Branches - see New York)
- Maas, Arthur R. Los Angeles, 308 E. 8th St.
a to h inclusive. Specialize in general analytical work.
- Morse, H. E. San Francisco, 954 Howard St.
e, f. Specialize upon ferrous and non-ferrous metal analyses only.
- Pacific Chemical Laboratories. San Francisco, 417 Montgomery St.
a to h inclusive. Specialize in analyses of food and agricultural material and general research in chemistry.
- Smith-Emery Company Los Angeles, 245 S. Los Angeles St.
a to h inclusive. Specialize in analysis, especially of oils, waters, fertilizers, soils, ferrous and non-ferrous metals, rocks, etc.
- Twining Laboratories Fresno, 2146-8 Merced St.
a to h inclusive
- University of California Berkeley
Testing Laboratory,
Dept. of Civil Engineering a
Make no commercial tests which private companies in the locality can do. Special tests made when these companies not equipped.
- Western Precipitation Co. Los Angeles, 1016 W. 9th St.
a to g inclusive. Also special tests with cement and gases.

1. The first part of the report is a general introduction to the subject of the study.

2. The second part of the report is a detailed description of the methods used in the study.

3. The third part of the report is a discussion of the results of the study.

4. The fourth part of the report is a conclusion and a list of references.

5. The fifth part of the report is a list of appendices.

6. The sixth part of the report is a list of figures and tables.

7. The seventh part of the report is a list of footnotes.

8. The eighth part of the report is a list of symbols and abbreviations.

9. The ninth part of the report is a list of acknowledgments.

10. The tenth part of the report is a list of references.

11. The eleventh part of the report is a list of appendices.

12. The twelfth part of the report is a list of figures and tables.

13. The thirteenth part of the report is a list of footnotes.

Colorado

Richards, J. W. & Son Denver, 113 Nineteenth St.
a to h inclusive. Specialize in b, d, e, g.

Root and Simpson Denver, 1714 Broadway
a, b, c. Specialize in ores and metallurgical
products.

Wood, Henry E. Assaying Co. Denver, 1730 Arapahoe St.
a to g inclusive. Specialize in minerals, ores,
metallurgy.

Woodward, E. C. Colorado Springs
a to f inclusive 26 E. Kiocca St.

Western Research Corporation, Denver, 514-516 Eighteenth St.
c, g. Specialize in ore testing.

Connecticut

Henry Souther Engineering Co. Hartford, 11 Laurel St.
d, e, f, g. Specialize in analysis of d, e, f, g,
and of water and foods.

Stanley P. Rockwell Co. Hartford, 112 High St.
e, f. Specialize on steel.

Yale University, New Haven, 14 Mansfield St.
(Sheffield Scientific School)
Hammond Metallurgical Laboratory)
a, b, c, d, e. Specialize in metals and ores.

District of Columbia

Industrial Research Laboratories, Washington, 22nd &
New York Ave., N.W.
a, c, d, e, f, g. Specialize in general commercial
tests, paints, varnishes.

Georgia

Dumas Laboratory, Atlanta, 10 1/2 Auburn Ave.
All classes of general analytical work except (a).
Specialize in foods and beverages.

Georgia School of Technology, Atlanta.
Chemistry Dept.
c, e, f, g for glyceride oils only.

Law and Company, Inc. Atlanta, Walton Bldg.
(Branches - see N.C.) Cordele.

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[illegible]

Journal of Management Studies, 19(1), 67-80.

10-11-1944

[illegible]

Hawaii

University of Hawaii, Honolulu.
Dept. of Chemistry equipped to make any
ordinary chemical analyses.

Illinois

Armour Institute of Technology, Chicago, 3300 Federal St.
a to h inclusive.

Block Laboratories, Chicago, 222 E. Ontario St.
a to h inclusive. Specialize in organic analysis.

Chicago Paving Laboratory, Inc. Chicago, 533 Lake Shore Drive
Specialize in bituminous products, including
road-building material, oils, tar products, etc.

Commercial Testing and Engineering Co. Chicago, Old Colony
d, e, h. Specialize in d. Bldg.

Deavitt Laboratories Inc. Chicago, The Rookery,
209 So. LaSalle St.
a to h inclusive. Specialize in all kinds of analytical
work.

Hunt, Robert W. Co., Chicago, 445 N. Sacramento Blvd.
a to h inclusive. Specialize in metals and
building materials.

Kawin, Charles C. Co., Chicago, 431 S. Dearborn St.
c, d, e, f.

Laverie, R. H. & Sons, Inc. Chicago, 431 S. Dearborn St.
(Branch - see New York)

Lewis Institute - see Structural Materials Research

Mariner and Hoskins, Chicago, 111 W. Monroe St.
a to h inclusive. Specialize in general industrial
chemistry.

Miner Laboratories, Chicago, 9 S. Clinton St.
f, g. Specialize in foodstuffs and general
analytical work excepting mineral assay work.

Pittsburgh Testing Laboratory, Chicago, Old Colony Bldg.
(Branch - see Penna.)

Structural Materials Research Laboratory, Chicago,
1951 W. Madison St.
a to h inclusive. Specialize in gases, oil
and general.

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research.

2. The second part of the report is a detailed description of the methodology used in the study. It includes information about the sample size, the data collection methods, and the statistical analysis techniques.

3. The third part of the report is a presentation of the results of the study. It includes tables, figures, and text describing the findings of the research.

4. The fourth part of the report is a discussion of the results and their implications. It discusses the strengths and limitations of the study and provides suggestions for future research.

5. The fifth part of the report is a conclusion and summary of the findings. It provides a brief overview of the study and its results.

6. The sixth part of the report is a list of references. It includes all the sources of information used in the study.

7. The seventh part of the report is an appendix. It includes any additional information that is relevant to the study but is not included in the main body of the report.

8. The eighth part of the report is a glossary. It defines the key terms and concepts used in the study.

9. The ninth part of the report is a list of abbreviations. It provides a key for the abbreviations used throughout the report.

10. The tenth part of the report is a list of figures. It provides a key for the figures included in the report.

11. The eleventh part of the report is a list of tables. It provides a key for the tables included in the report.

12. The twelfth part of the report is a list of footnotes. It includes any additional information that is relevant to the study but is not included in the main body of the report.

13. The thirteenth part of the report is a list of appendices. It includes any additional information that is relevant to the study but is not included in the main body of the report.

14. The fourteenth part of the report is a list of references. It includes all the sources of information used in the study.

15. The fifteenth part of the report is a list of abbreviations. It provides a key for the abbreviations used throughout the report.

Illinois (Cont'd.)

University of Illinois Urbana
Dept. of Chemistry
a, c, d, e, f, g. Specialize in coal.

Indiana

Purdue University, Lafayette
Dept. of Chemistry
c, d, e, f, g, h, and water

Rose Polytechnic Institute, Terre Haute
Dept. of Chemical Engineering
a, c, d, e, f, g, h. Specialize in
coals, boiler water and oils.

Iowa

Iowa State College,	Ames
Chemistry Section	
c, d, e, f, g, h.	Specialize in engineering and inorganic analysis. Commercial work only by special arrangement.
 Patzig, Monroe L.,	 Des Moines
d, f, g.	Specialize in engineering and building materials.
 University of Iowa,	 Iowa City
a to h inclusive.	Commercial work only by request.

Kentucky

James and Breckler, a to h inclusive. Specialize in creosote and wood-preserving materials.	Louisville
University of Kentucky, Chemical Lab. of Ky., Agri. Exp. Station a, c, d, f. Specialize in agricultural materials, especially soils, limestones, water.	Lexington, S. Limestone St. and Washington Ave.

Louisiana

Barrow-Agee Laboratories, (Branch - see Tennessee)	Shreveport, Box 858
Laverie, R. H. & Sons, (Branch - see New York)	New Orleans

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1. The first part of the document is a letter from the President of the United States to the Congress, dated January 1, 1861. It is a copy of the original letter, and is signed by the President.

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Louisiana(Cont'd.)

Liepsner, Frank W., New Orleans, 420 Camp St.
a to h inclusive. Specialize in coal, oil,
and sugar products.

Shilstone, Herbert M. Co. New Orleans, 302 Camp St.
a to h inclusive. Also sugar products and cereals.

Tulane University, New Orleans
College of Engineering
a to h inclusive

Maine

Andrews, A. B., Lewiston, 14 Lisbon
a to h inclusive. Specialize in clinical, fuels,
paper-making materials.

University of Maine, Orono
a, c, d, e, f, g, h.

Maryland

Penniman and Browne Baltimore, 315 E. Fayette St.
General Analyses

Laverie, R. H. & Sons, Inc. Baltimore
(Branch - see New York)

Massachusetts

Laverie, R. H. & Sons, Inc. Boston
(Branch - see New York)

Little, Arthur D., Cambridge, 30 Charles River Rd.
a to h inclusive. Specialize in metallurgical
work, fuel testing, oil, water, paper, develop-
ment of formulae and miscellaneous testing.

Lowell Textile School, Lowell
d and g. Specialize in textile chemistry, dyeing
and bleaching.

Massachusetts Institute of Technology Cambridge, 39
Division of Metallography,
a to h inclusive

New England Laboratories, Springfield, 121 Chestnut St.
a to h inclusive. Specialize in paper and pulp,
coal, fuel and lubricating oils, water, sands and
cements, and research problems.

Massachusetts (Cont'd).

Skinner, Sherman and Esselen, Boston, 276 Stuart St.
d, e, f, g. Specialize in foods, water, oils,
asphalts, pulp and paper, and miscellaneous
commercial products.

U.S. Testing Co., Inc., New Bedford.
(Branch - see New York)

Worcester Polytechnic Institute Worcester
Chemical Laboratory,
c, d, e, f, g. Specialize in coal, oil,
street paving materials.

Michigan

Detroit Testing Laboratory, Detroit, 554 Bagley Ave.,
a to h inclusive. Specialize in metals, fuel,
lubricants, ores and gas.

Perry Testing Laboratory, Detroit, 201 Third St.
c, d, e, f, g.

United Laboratories, Detroit, 161 Larned West
d, e, f. Specialize in metals and coal.

U. S. Radiator Corporation, Detroit
Specialize in foundry materials

University of Michigan, Ann Arbor
Dept. of Engineering Research,
a to h inclusive

Minnesota

Hoven, J. R. Minneapolis, 424 Tribune
c, d, e, f. Specialize in d, e, f. Annex.

Minnesota Testing Laboratories, Duluth, 318 Glencoe Bldg.
a to h inclusive. Specialize in coal, ores and steel.

University of Minnesota, Minneapolis
School of Chemistry,
a to h inclusive

School of Mines,
Dept. of Metallurgy, Minneapolis
a to h inclusive. These analyses only made in
connection with testing ores from State of
Minnesota and metallurgical investigations.
Specialize on iron and manganese ores.

Van Cleve Laboratories, Minneapolis, 322 Fourth St.
a to g inclusive. Specialize in South
ore assays and coal,

MEMBERS

4. The fourth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the treasurer.

5. The fifth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the clerk.

6. The sixth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assistant clerk.

7. The seventh part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assistant treasurer.

8. The eighth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assistant secretary.

MEMBERS

9. The ninth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assistant clerk.

10. The tenth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assistant treasurer.

11. The eleventh part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assistant secretary.

12. The twelfth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assistant clerk.

13. The thirteenth part of the document is a list of the names and addresses of the members of the committee who have been elected to the office of the assistant treasurer.

Mississippi

Barrow-Agee Laboratories, Jackson, Box 517
(Branch - see Tennessee)

Missouri

Chauvenet, Regis and Brother, St. Louis, 620 Chestnut St.
a to f inclusive. Specialize in commercial
inorganic, paints, asphalts, clays, water,
ores, fuels.

Drury College, Springfield
Dept. of Chemistry,
Specialize in water analysis, detection of poisons,
and potash analysis.

Hunt, Robert W. Co. St. Louis, Syndicate
(Branch - see Illinois) Trust Bldg.

Kansas City Testing Laboratory, Kansas City, 700 Baltimore
a to h inclusive Ave.

Laverie, R. H. & Sons, Inc. St. Louis
(Branch - see New York)

University of Missouri, Rolla
School of Mines and Metallurgy,
a to f inclusive. Also clays

Waring and Williams, Joplin, 620 Joplin St.
a to g inclusive. Specialize in minerals.

Washington University, St. Louis
Chemical Laboratory,
a to h inclusive

Montana

University of Montana, Butte
School of Mines,
a, b, c, d, e, f, h. Specialize in assaying,
inorganic analyses, coal analysis, and fuel
testing.

Nevada

Downer Brothers, Goldfield, 418 N. Columbia
a and e. Specialize in e.

Levelock Assay Office, Levelock, Box 777
a, b, c, e, f.

New Jersey

Dover Laboratory, Dover, 53-55 E. McFarlan St.
a, c, d, e. Specialize in analysis of ores,
coal, coke, limestone, iron, drillings, gold
and silver ores.

Miller, Chas. E., Camden, Third & Jackson
Specialize in consulting work in dyes,
soaps, detergents, perfumes, cosmetics, etc.

U. S. Testing Co., Inc., Paterson
(Branch - see New York)

New Mexico

College of Agriculture and State College
Mechanic Arts,
School of Engineering
c, d, e, f, g. Specialize in soils and waters.

N. Mexico School of Mines Socorro
a to h inclusive. Specialize in a, c, f.

University of New Mexico, Albuquerque
Chemical Laboratory
d, f, g, h. Specialize in water.

New York

Bull and Roberts, New York, 50 West St.
a, c, d, e, f, g, h. Also water, paints, and
chemistry problems of marine and land transporta-
tion companies, court work.

College of City of New York, New York, Convent Ave.,
School of Technology, and 139th St.
a to h inclusive. Specialize in qualitative
analysis.

Columbia University, New York
Dept. of Civil Engineering,
Testing Laboratories,
a to h inclusive

Cornell University, Ithaca
Dept. of Chemistry,
a to h inclusive, especially a, d, e, f, h.

Dorr Company, New York, 247 Park Ave.
a to g inclusive

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- Douglaston Laboratories, Douglaston
a to h inclusive, except five assay, but does
not specialize in commercial analysis.
- Electrical Testing Laboratories, New York, 80th St.
and E. End Ave.
c, d, e, f, g, h. Specialize in paper, coal, oils,
ferrous and non-ferrous metals and alloys, inks, water,
paints.
- Fraser Laboratories, New York, 50 E. 41st St.
d and g. Also water, food, drugs, clinical
pathology and general industrial.
- Hunt, Robert W. Co. New York, 53 Park Place
(Branch - see Illinois)
- Kawin, Chas. C. Buffalo, 110 Pearl St.
(Branch - see Illinois)
- Kraus Research Laboratories, New York, 110 W. 40th St.
Specialize in minerals.
- Laverie, R. H. & Sons, Inc., New York, 17 State St.
c, d, e, f, g, h. Specialize in ferrous materials,
oils, bitumens and cements.
- Ledoux & Company, New York, 99 John St.
a to f inclusive. Specialize in analyses of minerals,
ores and metallurgical products, both ferrous and non-
ferrous.
- New York Produce Exchange, New York, 2 Broadway
g. Specialize on vegetable oils, flour, feed, etc.
- New York Testing Laboratories, New York, 80 Washington St.
a to h inclusive
- Pitkin, Lucius, New York, 47 Fulton St.
a, b, c, e, f. Specialize in a, b, c, f.
- Pittsburgh Testing Laboratory, New York, 35 Sixth Ave.
(Branch - see Pennsylvania)
- Pratt Institute, Brooklyn, 215 Ryerson St.
School of Science and Technology,
a to h inclusive. Specialize in paint, varnish,
and leather.
- Rensselaer Polytechnic Institute, Troy
a to h inclusive. Specialize in ferrous
and non-ferrous metals.

New York (Cont'd.)

St. John, Ancil, New York, 505 Fifth Ave.
Specialize in X-ray crystal analysis.

Stillman and Van Siclen, New York, 237 Front St.
c, d, e, f, g. Specialize in pavement,
highway and building materials.

Touceda, Enrique, Albany, Broadway & Thacher Sts.
a to h inclusive. Both organic and inorganic work.

Union College, Schenectady.
Chemical Laboratory,
a to h inclusive. Specialize in mineral, food
and water analysis.

United States Testing Co., New York, 316 Hudson St.
d and g. Specialize in dyes and textile
industry materials as soaps, oils, waters, etc.

Western Precipitation Co., New York, 25 W. 43rd St.
(Branch - see Calif.)

North Carolina

Law and Company Wilmington, 204 N. Front St.
c, d, e, f, g. Specialize in fertilizer materials,
fuels, foods, water and general analytical chemistry.

University of North Carolina, Chapel Hill.
Dept. of Chemistry
a to h inclusive. Specialize in assay, minerals
and coal.

North Dakota

University of N.D., Grand Forks, University
College of Engineering, Station
a to h inclusive. Specialize in coal, gas, clays.

Ohio

Broeman, F. C. & Co. Cincinnati, 215 E. 4th St.
a to h inclusive

Case School of Applied Science, Cleveland, University Circle
a only. Specialize in it.

Commercial Testing & Engineering Co., Cleveland, Rockefeller
(Branch - see Illinois) Bldg.

Cramer-Case Co., Cleveland, 2800 Washington,
d, e. N.W.

Ohio(Cont'd.)

Crowell and Murray, Cleveland, 407 Perry Payne Bldg.
a to h inclusive. Specialize in inorganic.

Forest City Testing Laboratory, Cleveland, 511 Superior Bldg.
a to h inclusive.

Herron, James H., Cleveland, 1360-1364 W.
c to h inclusive. Specialize in in- Third St.
dustrial and engineering materials.

Kawin, Chas. C., Cincinnati, 232 W. Fourth St.
(Branch - see Illinois)

Laverie, R.H. & Sons, Cleveland
(Branch - see New York)

Long, Chas. F. Columbus, 141 E. Broad St.
Specialize in water work, fuel testing, toxicological
examinations, and general organic and inorganic analyses.

Ohio Brass Company, Mansfield.
c, d, e, f, g. Specialize in e, and f.

Ohio Mechanics Institute, Cincinnati, Central
d, e, f, g, h. Parkway and Walnut Sts.

Ohio State University, Columbus.
Dept. of Metallurgy,
a to h inclusive. Specialize in steels, fuels,
and refractories.

Ohio University, Athens.
d and f. Do little commercial work.

Textor Chemical Laboratories, Cleveland, 603 Superior
a to h inclusive. Specialize in Ave. N.W.
coal, iron ore and steel.

Oregon

Northwest Testing Laboratories, Portland, 526 Myler Bldg.
(Branch - see Washington)

Oregon Independent Testing Laboratory, Portland, 3rd &
General industrial chemical testing Washhill Sts.
and analysis, specializing on fuels, water, paints,
and purchasing agents' supplies with special atten-
tion to pure food requirements.

Pennsylvania

Bishop, J. & Co., Platinum Works, Malvern, Pa.
a, b, c. Specialize in precious metals and their alloys.

1. The first part of the report is a general introduction to the subject of the study.

2. The second part of the report is a detailed description of the methods used in the study.

3. The third part of the report is a presentation of the results of the study.

4. The fourth part of the report is a discussion of the results and their implications.

5. The fifth part of the report is a conclusion and a list of references.

6. The sixth part of the report is a list of appendices.

7. The seventh part of the report is a list of figures and tables.

8. The eighth part of the report is a list of footnotes.

9. The ninth part of the report is a list of symbols and abbreviations.

10. The tenth part of the report is a list of acknowledgments.

11. The eleventh part of the report is a list of references.

12. The twelfth part of the report is a list of appendices.

13. The thirteenth part of the report is a list of figures and tables.

14. The fourteenth part of the report is a list of footnotes.

15. The fifteenth part of the report is a list of symbols and abbreviations.

16. The sixteenth part of the report is a list of acknowledgments.

17. The seventeenth part of the report is a list of references.

18. The eighteenth part of the report is a list of appendices.

Pennsylvania (Cont'd.)

- Booth, Garrett & Blair, Philadelphia, 404-6 Locust St.
a to h inclusive. Specialize in metallurgical analyses.
- Carnegie Institute of Technology, Pittsburgh, Schenley Park.
College of Engineering.
a to h inclusive. Specialize in general and industrial.
- Chemical Service Laboratories, Philadelphia, 18th & Cherry Sts.
d, f, g, h. Specialize in petroleum, gas, solid fuel
and coal tar by-products industries' analytical work.
- Coleman, W. B. & Co., Philadelphia, 15th & Wallace Sts.
a to h inclusive. Specialize in d, e, f, h.
- Davis, George C., Philadelphia, 636 Race St.
c, d, e, f. Specialize in iron and allied products.
- Drexel Institute, Philadelphia, 32nd & Chestnut Sts.
d, e, f, g, h. Specialize in obtaining platinum and
gold from residues.
- Erie Laboratory, Erie, 1519 French St.
a, c, d, e, f, g, h.
- Hunt, Robt. W. Co., Pittsburgh, Monon Bank Bldg.
(Branch - see Illinois)
- Laverie, R. H. & Sons, Inc., Pittsburgh and Philadelphia
(Branches - see New York)
- Lehigh University, Bethlehem
Dept. of Chemical Engineering,
a, c, d, e, f, g, h.
- McCreath, Andrew S. & Son, Harrisburg, 236-242 Liberty St.
c, d, e. Also limestones, cookes, refractory materials,
etc.
- Pittsburgh Testing Laboratory, Pittsburgh, Stevenson &
a to h inclusive. Locust Sts.
Specialize in metallurgical products.
- Sadtler, Samuel P. & Son, Philadelphia, 210 S. 13th St.
d, g. Specialize in organic industrial analysis.
- Smith, Rudy & Co., Philadelphia, 411 Walnut St.
c, d, e, f. Specialize in ferrous, nonferrous and fuels.

Received of the Treasurer of the
Board of Directors of the
City of New York the sum of
\$100.00 for the year 1880

Witness my hand and seal this 1st day of
January 1881

Attest: *[Signature]*

[Signature]

[Signature]

[Signature]

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Pennsylvania (Cont'd.)

Swarthmore College, Swarthmore.
Dept. of Chemistry.
Equipped for analyses and certain metallographic tests, but policy is not to do commercial work unless in nature of research.

U.S. Testing Co. Inc., Philadelphia.
(Branch - see New York)

Warner Laboratories, Cresson, 617 First St.
a to f inclusive. Specialize in coal, coke, clay, limestone, silica and water.

Philippine Islands,

Bureau of Science, Manila.
Chemical Laboratory,
a to h inclusive.

Porto Rico

University of Porto Rico,
College of Agriculture and Engineering, Mayaguez.
Chemical Laboratory,
c, d, e, f, g. Specialize on sugar, fertilizers and soils.

Rhode Island

Saunders and Franklin, Providence, 184 Whittier Ave.
d, e, f, g. Specialize in iron, steel and foundry material.

Tennessee

Barrow-Agee Laboratories, Memphis, Box 1056
c, d, e, f, g, h. Specialize in organic materials, especially cottonseed products, fertilizers, and water.

Vanderbilt University, Nashville.
c to g inclusive

Texas

Cameron, Geo. W. El Paso, 205 San Francisco St.
a to f inclusive. Specialize in ores, metals, gold, silver, copper, lead, zinc, manganese, iron, silica, lime, furnace products.

Fort Worth Laboratories, Fort Worth, 828 1/2 Monroe St.
a to h inclusive.

Texas (Cont'd.)

Houston Laboratories, Houston, 215 1/2 Main St.
a, b, c, d, g, h; also cottonseed, peanut, copra,
soybeans, water, soils, cements, fertilizers,
petroleum products.

Moore, Landon C. Dallas, 1713 1/2 Young St.
a to g inclusive. Specialize in feeding stuffs and
fertilizers, water, oils, fats, petroleum, beverages,
milks, fuels, foods.

Pittsburgh Testing Laboratory, Dallas, Santa Fe Bldg.
(Branch - see Penna.)

Rice Institute, Houston.
a to h inclusive. Specialize in oils and coals.

Utah

Bardwell, Alonzo F. Salt Lake City,
a, c. 158 S.W. Temple St.

Black and Deason, Salt Lake City,
a, b, c, d, e, f. 165 S.W. Temple St.

Cowan, C. S. Salt Lake City,
a to h inclusive. 160 S.W. Temple St.

Crisman and Nichols, Salt Lake City,
a to f inclusive. 229-231 S.W. Temple St.
Specialize in assaying of ores.

University of Utah, Salt Lake City.
School of Mines and Engineering,
a to h inclusive. Specialize in ores of zinc, copper,
lead, etc.

Washington

Bennett's Chemical Laboratory, Tacoma, 1142 Market St.
a to h inclusive. Specialize in ores, especially
gold, silver, lead, zinc, copper.

Fassett, C. M. Co. Spokane, 209 N. Wall St.
a to g inclusive. Specialize in metallurgical
analysis and assaying.

Geijsbeek Engineering Co., Seattle, Burke Bldg.
a to h inclusive. Specialize in clays.

Laucks, I. F. Inc. Seattle, 99 Marion St.
a to h inclusive. Specialize in coal, alloys,
vegetable and mineral oils and food products.

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Washington

Laverie, R. H. & Sons, Inc., Seattle.
(Branch - see New York)

Northwest Testing Laboratories, Seattle, 2113 Third Ave.
a to h inclusive Tacoma, City Hall Annex
(Branch)

Pacific Coast Testing Laboratory, Seattle, 607 Third Ave.
Iron, steel, coke, alloys, limestone, ores, and
engineering materials.

University of Washington, Seattle
Chemical Laboratory,
b to h, inclusive, Specialize in wood distillation
and low temperature coal distillation.

West Virginia

Commercial Testing and Engineering Co., Charleston,
(Branch - see Illinois) Moore Bldg.

West Virginia University, Morgantown, W. Va.
a to h inclusive. Specialize in coal, gas, iron, oil
and ferrous minerals.

Wisconsin

Jones, Wilbur L. Madison, 204 Democrat Bldg.
Specialize in testing of animal, casein and
vegetable glues, pastes and other adhesives.

Sommer Chemical Laboratories, Milwaukee, 114 Grand Ave.
c to h inclusive. Also water and food.
Specialize in fuels, water, and toxicological
examinations for poisons.

University of Wisconsin, Madison.
Chemical Engineering Laboratories,
d, g, h. Specialize in fions.
Mining and Metallurgical Laboratory, Madison.
a to h inclusive.

Canada

Canadian Inspection and Testing Co. Toronto, Ontario
c, d, e, f, g. 100 Jarvis St.
Also building materials, water, paints, food products,
rubber, flaxseeds, soaps, etc.
Branch, Montreal, 405 Shaughnessy Bldg.

Hunt, Robt. W. Co. Montreal, 1001 McGill Bldg.
(Branch - see Illinois)

Kawin, Chas. C., (Branch - see Illinois)	Toronto, Ont., 156 Yonge St.
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2. The second part of the document focuses on the implementation of these practices across different departments. It provides a detailed overview of the roles and responsibilities of each team member, ensuring that everyone is clear on their tasks and how they contribute to the overall goals of the organization. This section also includes a timeline for the implementation of the new procedures, allowing for a smooth transition from the old system to the new one.

3. The third part of the document addresses the challenges faced during the implementation process. It identifies common pitfalls and provides strategies to avoid them, such as regular communication and collaboration between teams. This section also includes a list of resources and support available to the staff, ensuring that they have everything they need to succeed. Finally, the document concludes with a summary of the key findings and a call to action, encouraging the organization to continue to improve and adapt to changing circumstances.

